



UNITED STATES PATENT AND TRADEMARK OFFICE

CW
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,498	09/12/2003	Olivier Bernard	004501-739	5621
21839	7590	01/21/2005		EXAMINER
BURNS DOANE SWECKER & MATHIS L L P POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404				TRIEU, THAI BA
			ART UNIT	PAPER NUMBER
			3748	
				DATE MAILED: 01/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)
	10/660,498 Examiner Thai-Ba Trieu	BERNARD, OLIVIER. Art Unit 3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-10 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-10 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09/12/2003</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

The Preliminary Amendment filed on September 12, 2003 is acknowledged.

Information Disclosure Statement

The listing of references, such as "New high efficiency Page 231, Figure 7" (See Page 2, lines 9-13); German Patent Number DE 28 23 067 A and DE 197 28 850 A (See Page 3, lines 4-5); US Patent Number 4,774,812 and German Patent Number DE 198 24 476 A (See Page 3, line 39, Page 4, lines 1 and 27, and Page 5, line 15), in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Specification

1. IN THE ABSTRACT:

Since the Abstract is too long, applicant is required to submit a substitute abstract to meet the requirement set forth below:

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length

since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. IN THE SPECIFICATION:

Applicant discloses "invention relates to method of utilizing waste heat ... from the engine ***according to preamble of claim 1***" (Page 1, line 11); "to a device ... to ***the features of the preamble of patent claim 5***" (Page 1, line 13); "This object is achieved ... the features of patent claim 1" (Page 5, lines 1-2) however, claim may be amended or cancelled during the prosecution of the instant application, and therefore, is not an appropriate characterization of the invention.

Claim Suggestions

Applicant is suggested to revise claim 10 as an independent claim as the following:

-- [[An internal combustion engine with an exhaust gas turbocharger, wherein the exhaust gas turbocharger (10) is designed according to claim 8]] **In an internal combustion engine with an exhaust gas turbocharger, the exhaust gas turbocharger comprising [[the]] a compressor of which is flow-connected**

upstream to an intake line and downstream to compressor line, the compressor line being connectable an intake duct of an internal combustion engine to form a flow line, and a throttle valve being provided in the flow line, comprising bypass line which connected on its first side to the intake line upstream of the compressor and is connected with its second side to the flow line downstream of the compressor, characterized in that the bypass line (42, 43) is connected to the compressor line (28) between a compressing element (52) of the compressor (14) and the throttle valve (36). and in that said bypass line has at least one regulating element (48) which is designed in such a way that it allows only a flow around the compressing element (52) from its side located upstream to its side located downstream and prevents a flow from the downstream side of the compressing element (52) to the upstream side of the latter.

Appropriate revised version and correction of the rejection of 112, the second paragraph is required (See the rejection of 112, second paragraph set forth below).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically,

Art Unit: 3748

1. In claim 1, lines 13-14, the recitation of “*its*” render the claim indefinite, since it is not clear that which element(s) applicant wants to reference to such as the compressing element, the main line, or the throttle valve etc... applicant is required to define/clarify the element(s) that “*its*” is modified/determined to.
2. In claim 5, lines 3 and 5, the recitation of “**can be connected**” render the claim indefinite, since it is not clear that:
 - Firstly, under which condition the compressor line is connected to an intake duct, and under which the compressor line is not connected to an intake duct, applicant is required to identify each condition.
 - Secondly, under which condition the bypass line is connected on the first side to the intake duct, and under which the bypass line is not connected on the first side to the intake duct, applicant is required to identify each condition.
3. In claim 5, line 5, the recitation of “*its*” render the claim indefinite, since it is not clear that which element(s) applicant wants to reference to such as the compressor line, the flow line, or the bypass line etc... Applicant is required to define/clarify the element(s) that “*its*” is modified/determined to.
4. In claim 5, lines 12-13, the recitation of “*its*” render the claim indefinite, since it is not clear that which element(s) applicant wants to reference to such as the compressing element, the regulating element, or the throttle valve etc... Applicant is required to define/clarify the element(s) that “*its*” is modified/determined to.
5. In claim 8, line 2, the recitation of “**the compressor**” lacks antecedent basis in claim.

6. In claim 8, lines 5-6, and 11, the recitation of “*its*” render the claim indefinite, since it is not clear that which element(s) applicant wants to reference to such as the compressing element , the regulating element, the bypass line, or the throttle valve etc... Applicant is required to define/clarify the element(s) that “*its*” is modified/determined to.

7. In claim 8, line 10, the recitation of “*it*” render the claim indefinite, since it is not clear that which element(s) applicant wants to reference to such as the compressing element , the regulating element, the bypass line, or the throttle valve etc... applicant is required to identify the element(s).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsumura (Patent Number 4,551,977).

Regarding claims 1-4, Matsumura discloses a method for operating an exhaust gas turbocharger (22) serving for charging an internal combustion engine (10), in which a main flow of a gas (Not Numbered) is supplied to a compressor (22A) of the exhaust gas turbocharger (22) via an intake line, is compressed in the compressor by means of compressing element (wheel/component in 22A) and is led via a compressor line (via

Art Unit: 3748

18) into an intake duct of the internal combustion engine (10), the gas quantity transferred to combustion chambers (14) of the internal combustion engine (10) via the intake duct being regulated by means of a throttle valve (20) arranged between the compressor and the combustion chambers (14), wherein, when a vacuum occurs in the region downstream of the compressing element (wheel/component in 22A) between the compressing element (wheel/component in 22A) and the throttle valve (20), as compared with the pressure in the intake line (Not Numbered) upstream of the compressing element (wheel/component in 22A), this vacuum is utilized in order to generate a bypass flow (26) which is branched off upstream of the compressing element (wheel/component in 22A) from the main flow (Not Numbered) led via the compressing element (wheel/component in 22A), flows around the compressing element (wheel/component in 22A) from its side located upstream to its side located downstream and is returned to the main flow (Not Numbered) downstream of the compressing element (wheel/component in 22A) and upstream of the throttle valve (20) (See Figures 2-3, Column 1, lines 34-62, and Column 3, lines 31-67);

wherein the bypass flow (26) is branched off from the main flow (Not numbered) in the intake line (Not numbered) downstream of a flowmeter (28) and/or is returned into the main flow (Not Numbered) again in the region of the compressor line (via 18) (See Figures 2-3);

wherein when the pressure conditions are reversed and excess pressure occurs in the intake line (18) in the region between the throttle valve (20) and the compressing element (wheel/component in 22A), as compared with the region upstream of the

compressing element (wheel/component in 22A), a flow-through the bypass line (26) from the downstream side of the compressing element (wheel/component in 22A) to the upstream side of the latter is prevented (See Figures 2-3, Column 1, lines 34-62, and Column 3, lines 31-67);

wherein, the flow through the bypass line (26) from the downstream side of the compressing element (wheel/component in 22A) to the upstream side of the latter is prevented by means of at least one regulating element (30, 30a) (See Figures 2-3, Column 1, lines 34-62, and Column 3, lines 31-67).

Regarding claims 5-6, Matsumura discloses a device for operating an exhaust gas turbocharger (22), in which compressor (22A) of the exhaust gas turbocharger (22) is flow-connected upstream to an intake line (Not Numbered) and downstream to a compressor line (18), and the compressor line (18) can be connected to an intake duct (Not Numbered) of an internal combustion engine (10) to form flow line, a throttle valve (20) being provided in the flow line, comprising a bypass line (26) which can be connected on its first side (Not Numbered) to the intake line upstream of a compressing element of the compressor (wheel/component in 22A) and with its second side to the flow line downstream of the compressing element (wheel/component in 22A) of the compressor (22A), wherein in the assembled state of the downstream-compressing element (wheel/component in 22A) of the compressor (22A), the bypass line (26) is connected to the flow line (Not Numbered) between the compressing element (wheel/component in 22A) and the throttle valve (220), and in that said bypass line (26)

has at least one regulating element (30, 30a) which is designed such a way that it allows only flow around the compressing element (wheel/component in 22A) from its side located upstream to its side located downstream and prevents a flow from the downstream side of the compressing element (wheel/component in 22A) to the upstream side of the latter; (See Figures 2-3);

wherein the regulating element (30, 30a) is pressure-controlled, and preferably only the pressure in the intake line (Not Numbered) in the region upstream of the compressor element (wheel/component in 22A) and the pressure in the region between the compressing element (wheel/component in 22A) and the throttle valve (20) are used for the control (See Figures 2-3, Column 1, lines 34-62, and Column 3, lines 31-67).

Regarding claims 8-10, Matsumura discloses an exhaust gas turbocharger (22) for charging an internal combustion engine, the compressor (22A) of which is flow-connected upstream to an intake line (Not Numbered) and downstream to compressor line (18), the compressor line (18) being connectable an intake duct of an internal combustion engine to form a flow line, and a throttle valve being provided in the flow line, comprising bypass line (26) which connected on its first side to the intake line upstream of the compressor (22A) and is connected with its second side to the flow line downstream of the compressor (22A), wherein the bypass line (26) is connected to the compressor line (18) between a compressing element (wheel/component in 22A) of the compressor (22A) and the throttle valve (20) and wherein said bypass line (26) has at least one regulating element (330,30a) which is designed in such a way that it allows

only a flow around the compressing element (wheel/component in 22A) from its side located upstream to its side located downstream and prevents a flow from the downstream side of the compressing element (wheel/component in 22A) to the upstream side of the latter;

wherein the at least one regulating element (30, 30a) is pressure-controlled, and preferably only the pressures in the intake line (Not Numbered) in the region upstream of the compressing element (wheel/component in 22A) and in the region between the compressing element (wheel/component in 22A) and the throttle valve (20) act on the at least one regulating element (30,30a) for the control (See Figures 2-3, Column 1, lines 34-62, and Column 3, lines 31-67).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumura (Patent Number 4,551,977), in view of Finger et al. (Pub. Number US 2003/0115870 A1).

Matsumura discloses the invention as recited above, however Matsumura fails to disclose the bypass line being integrated into a turbocharger casing.

Finger teaches that it is conventional in the exhaust gas turbocharger art, to utilize the bypass line (15) being integrated into a turbocharger casing (9) (See Figure 1).

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the bypass line being integrated into a turbocharger casing, as taught by Finger, since the use thereof would have saved the space in the Matsumura device.

Conclusion

The IDS (PTO-1449) filed on September 12, 2003 has been considered. An initialized copy is attached hereto.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Yang (US Patent Number 6,675,579) discloses HCCI engine intake/exhaust systems for fast inlet temperature and pressure control with intake pressure boosting.
- Oetting et al. (US Patent Number 6,557,346) disclose a gas-conducting device.
- Tanaka (US Patent Number 4,873,961) discloses air fuel ratio control for supercharged automobile engine.
- Kawabata et al. (US Patent Number 4,512,153) disclose a turbocharger control system.
- Sone et al. (US Patent Number 4,449,371) discloses an air bypass system in an internal combustion engine with a supercharger.

- Kawamura et al. (Pub. Number US 2004/0187,852 A1) discloses a supercharger device for an internal combustion engine.

- Hitomi (Patent Number JP 63140823 A) discloses an exhaust turbo supercharged engine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (571) 272-4867. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



TTB
January 14, 2005

Thai-Ba Trieu
Primary Examiner
Art Unit 3748